REMARKS

With this Amendment, claims 1, 2, 11-13, 17-20, 31, 33 and 34 are amended, claims 5, 16, 22 and 36 are cancelled, and claims 39-120 are added. Claims 1-4, 6-15, 17-21, 23-35 and 37-120 are presently pending in the application.

Applicants would initially like to thank the Examiner for his careful review of the present application and search of the prior art, and for his indication that claims 5, 29, 30 and 37 contain allowable subject matter. In particular, claim 5 was objected to as having allowable subject matter but being dependent upon a rejected base claim, and claims 29, 30 and 37 were allowed.

The Office Action rejected claims 1-38 under 35 U.S.C. 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Regarding the statement that "absorption," "highly absorbed" and "not highly absorbed" are unclear, Applicants submit that "absorption" should have its common meaning which is consistent with the wording of the instant application. The term "highly absorbed" is to be interpreted in view of the wording of the instant application. For instance, the present application states on page 6, lines 14-23 as follows:

> In the presently preferred embodiment, the laser comprises either an erbium, chromium, yttrium, scandium, gallium garnet (Er, Cr:YSGG) solid state laser, which generates electromagnetic energy having a wavelength in a range of 2.70 to 2.80 microns, or an erbium, yttrium, aluminum garnet (Er:YAG) solid state laser, which generates electromagnetic energy having a wavelength of 2.94 microns. As presently preferred, the Er, Cr:YSGG solid state laser

> has a wavelength of approximately 2.78 microns and the Er:YAG solid state laser has a wavelength of approximately 2.94 microns. . . . the fluid emitted from the nozzle 71 preferably comprises water.

When the above-disclosed electromagnetic energy sources and fluids are used in the context of the present invention, high absorption occurs. On page 7, lines 14-17, it is stated that "water is chosen as the preferred fluid" and that "the actual fluid used may vary as long as it is properly matched (meaning it is highly absorbed) to the selected electromagnetic energy source (i.e. laser) wavelength." The term "low absorption," on the other hand, should be interpreted to mean substantially the opposite of highly absorbed.

In response to the Office Action's comment that "no wavelength other than those disclosed in the parent are disclosed," Applicants submit that any similarity in operating parameters between the parent (U.S. Application No. 09/298,112) and the instant application may result from the fact that both applications are directed at least in part to dermatological treatment procedures.

Regarding the assertion that the "claims are replete with functional language not of the proper form to be considered a structural limitation (see MPEP 2181)," Applicants respectfully disagree. Even if the Office Action were hypothetically assumed to be correct, however, the alleged "functional language" should still be examined and not disregarded. Applicants would like to emphasize the language of MPEP 2181, which states that "the PTO may not disregard the structure disclosed in the specification corresponding to such [35 U.S.C. 112, sixth paragraph] language when rendering a patentability determination."

The Office Action queried the language of claim 21, alleging that the prior-art use of thermal cutting forces to cut skin renders the claim language "suitable for

cutting or ablating skin" indefinite. In response, it is noted that the subject language of claim 21 states that "the disruptive forces, as distinguished from purely thermal cutting forces, generate cutting forces suitable for cutting or ablating skin placed within or adjacent to the interaction zone." Applicants submit that the language of claim 21 is not inconsistent with prior-art thermal cutting forces having been used on skin. Claim 21 may be interpreted, for example, to state, among other things, that the disruptive forces are not purely thermal and can be used to cut or ablate skin. In view of the above, Applicants request that the rejection under 35 U.S.C. 112 be reconsidered and withdrawn.

Claims 1-4, 6-14, 17, 19, 23-28 and 35 were rejected under 35 U.S.C. 102(b) as being anticipated by Itzkan (U.S. Patent No. 4,733,660). Applicants respectfully disagree with this rejection. Itzkan neither discloses nor suggests an apparatus for imparting disruptive forces onto a target surface, comprising, among other things, "a housing; a source of electromagnetic energy coupled to the housing . . . at least one contacting leg coupled to the housing and comprising a ball roller, the at least one contacting leg being constructed to contact a surface with the ball roller and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and a fluid output constructed to place fluid into the interaction zone, simultaneously . . . the electromagnetic energy . . . being substantially absorbed by at least a portion of the fluid in the interaction zone . . . causing the fluid to expand and impart disruptive forces onto or within the target surface," as recited in independent, amended claim 1. Nor does Itzkan disclose Nor suggest an apparatus comprising, among other things, a source of electromagnetic energy coupled to a housing and "constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface; at least one contacting leg . . . constructed to contact a surface and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or

directed into the interaction zone; and a moisture output constructed to simultaneously place moisture into close proximity of the interaction zone simultaneously . . . wherein at least one of (a) substantially all of the at least one contacting leg and (b) at least part of the housing adjacent to the contacting leg, comprises a transparent material," as set forth in independent, amended claim 34. Thus, Applicants submit that Itzkan neither discloses nor suggests any of the claimed combinations of presently pending claims 1-4, 6-14, 17, 19, 23-28 and 35.

As a basis for rejecting claim 31 under 35 U.S.C. 102(e) as being anticipated by Rizoiu et al. (WO97/07928), the Office Action merely stated: "[s]ee page 32." Applicants respectfully disagree with this rejection. Since page 32 of the cited reference appears to describe a conventional semiconductor chip fabrication sequence, Applicants query whether the cited page was intended. In any event, it is submitted that the WO97/07928 publication does not disclose or suggest a method of imparting disruptive forces onto a target surface, comprising, among other things, "focusing or directing electromagnetic energy into an interaction zone . . . whereby the electromagnetic energy is moved over at least a part of the target surface during a first time period; placing first amounts of moisture into the interaction zone during the first time period; focusing or directing electromagnetic energy into the interaction zone . . . whereby the electromagnetic energy is moved over substantially the same part of the target surface during a second time period; and placing second amounts of moisture into the interaction zone during the second time period, the second amounts of moisture being less than the first amounts of moisture," as recited in independent, amended claim 31. Accordingly, Applicants submit that the WO97/07928 publication neither discloses nor suggests the claimed combination of method steps recited in claim 31.

Regarding the rejection of claims 1-4, 8, 10-15, 17-21, 23-28 and 33-35 under 35 U.S.C. 103(a) as being unpatentable over Rizoiu et al. (1994 – "The

Efficiency...") in combination with Buys et al. (U.S. Patent No. 5,336,217), Applicants respectfully disagree. Independent, amended claim 1 is directed to an apparatus for imparting disruptive forces onto a target surface, comprising, among other things, "a housing; a source of electromagnetic energy coupled to the housing . . . at least one contacting leg coupled to the housing and comprising a ball roller, the at least one contacting leg being constructed to contact a surface with the ball roller and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and a fluid output constructed to place fluid into the interaction zone, simultaneously . . . the electromagnetic energy . . . being substantially absorbed by at least a portion of the fluid in the interaction zone . . . causing the fluid to expand and impart disruptive forces onto or within the target surface," which is neither disclosed nor suggested by Rizoiu et al. or Buys et al., taken separately or together.

Moreover, independent, amended claim 33 is directed to an apparatus for imparting disruptive forces onto a target surface, comprising, among other things, "a source of electromagnetic energy coupled to [a] housing and constructed to focus or direct electromagnetic energy into an interaction zone . . . at least one contacting leg . . . constructed to contact the target surface and to space the source of electromagnetic energy from the target surface . . . and a moisture output constructed to simultaneously place moisture into close proximity of the interaction zone simultaneously with the focusing or directing of electromagnetic energy into the interaction zone; wherein substantially all of the parts therein are fixed and do not move so that the electromagnetic energy directed into an interaction zone is not scanned relative to the housing," which is neither disclosed nor suggested by Rizoiu et al. nor Buys et al., taken separately or together.

Furthermore, neither Rizoiu et al. nor Buys et al., taken separately or together, disclose or suggests an apparatus comprising, among other things, a

source of electromagnetic energy coupled to a housing and "constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface; at least one contacting leg . . . constructed to contact a surface and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and a moisture output constructed to simultaneously place moisture into close proximity of the interaction zone simultaneously . . . wherein at least one of (a) substantially all of the at least one contacting leg and (b) at least part of the housing adjacent to the contacting leg, comprises a transparent material, as recited in independent, amended claim 34. Thus, it is respectfully submitted that the cited references, taken separately or together, neither disclose nor suggest any of the claimed combinations of presently pending claims 1-4, 8, 10-15, 17-21, 23-28 and 33-35.

Claims 22 and 36 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rizoiu et al. (1994 – "New Laser...") in combination with Buys et al. (U.S. Patent No. 5,336,217). Claims 22 and 36 have been cancelled, however, thereby rendering the present rejection moot.

Claims 16 was rejected under 35 U.S.C. 103(a) as being unpatentable over Rizoiu et al. (1994 – "The Efficiency...") in combination with Buys et al., and further in view of Rizoiu et al. (U.S. Patent No. 5,741,247). Claim 16 has been cancelled, however, thereby rendering the present rejection moot.

Applicants have added new claims 39-120, none of which are disclosed or suggested by the prior art of record.

Applicant respectfully submits that the application is now in condition for allowance, and an early indication of same is requested. The Examiner is invited to contact the undersigned with any questions.

Respectfully submitted,

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APPENDIX

IN THE CLAIMS:

Claims 1, 2, 11-13, 17-20, 31, 33 and 34 have been amended as follows:

1. (Amended) An apparatus for imparting disruptive forces onto a target surface, comprising:

a housing;

a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;

at least one contacting leg coupled to the housing and comprising a ball roller, the at least one contacting leg being constructed to contact a surface with the ball roller and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and

a fluid output constructed to place fluid into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, at least part of the electromagnetic energy from the source of electromagnetic energy being absorbed by at least a portion of the fluid in the interaction zone, and the absorption of the electromagnetic energy by the fluid causing the fluid to expand and impart disruptive forces onto or within the target surface.

2. (Amended) The apparatus as set forth in Claim [1] 41, wherein:

the surface contacted by the at least one contacting leg is in close vicinity to the target surface; and

the fluid output comprises a moisture output constructed to place moisture

into the interaction zone, simultaneously with the focusing or directing of infrared electromagnetic energy into the interaction zone, the infrared electromagnetic energy from
the source of infrared electromagnetic energy being absorbed by the moisture in the interaction zone, and the absorption of the infrared electromagnetic energy by the moisture
causing the moisture to expand and impart disruptive forces onto or within the target surface.

11. (Amended) The apparatus as set forth in Claim 2, wherein the source of infrared electromagnetic energy is constructed to deliver a peak concentration of infrared electromagnetic energy into the interaction zone, the peak concentration of infrared electromagnetic energy being greater than a concentration of infrared electromagnetic energy delivered onto the target surface.

12. (Amended) The apparatus as set forth in Claim 11, wherein the source of infrared electromagnetic energy comprises a fiber tip which terminates at a boundary of the interaction zone.

13. (Amended) The apparatus as set forth in Claim 12, wherein the source of infrared electromagnetic energy comprises at least one reflector and a window.

17. (Amended) The apparatus as set forth in Claim 2, wherein:

the infrared electromagnetic energy from the source of infrared electromagnetic energy is highly absorbed by the moisture in the interaction zone;

the interaction zone is substantially bounded in a dimension, measured in a direction parallel to a direction of propagation of the infrared electromagnetic radiation, that is no larger than about 5 mm from the target surface when the at least one contacting leg is contacting the target surface; and

an amount of moisture extending beyond the 5 mm boundary of the interaction zone in a path of the infrared electromagnetic radiation is negligible, so that an amount of absorption of the infrared electromagnetic radiation by the moisture beyond the 5 mm boundary does not detectably alter the cutting power of the apparatus, compared to a cutting power that the apparatus would have if no moisture extended beyond the 5 mm boundary of the interaction zone.

18. (Amended) The apparatus as set forth in Claim 2, wherein the infrared electromagnetic energy from the source of infrared electromagnetic energy has a wavelength which is highly absorbed by the moisture in the interaction zone.

19. (Amended) The apparatus as set forth in Claim 2, wherein the infrared electromagnetic energy from the source of infrared electromagnetic energy has a wavelength which is not highly absorbed by the moisture in the interaction zone.

20. (Amended) The apparatus as set forth in Claim 2, wherein:

the source of infrared electromagnetic energy comprises a fiber optic having an output end; and

the moisture output is constructed to output moisture onto the output end of the fiber optic.

31. (Amended) A method of imparting disruptive forces onto a target surface, comprising:

focusing or directing electromagnetic energy into an interaction zone above the target surface whereby the electromagnetic energy is moved over at least a part of the target surface during a first time period;

[simultaneously] placing first amounts of moisture into the interaction zone during the first time period;

focusing or directing electromagnetic energy into the interaction zone above the target surface whereby the electromagnetic energy is moved over substantially the same part of the target surface during a second time period; and

[simultaneously] placing second amounts of moisture into the interaction zone during the second time period, the second amounts of moisture being less than the first amounts of moisture.

33. (Amended) An apparatus for imparting disruptive forces onto a target surface, comprising:

a housing;

a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;

at least one contacting leg coupled to the housing, the at least one contacting leg being constructed to contact the target surface and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and

a moisture output constructed to simultaneously place moisture into [the interaction zone, the electromagnetic energy from the source of electromagnetic energy being absorbed by the moisture in the interaction zone, and the absorption of the electromagnetic energy by the moisture causing the moisture to expand and impart disruptive forces onto the target surface] close proximity of the interaction zone simultaneously with the focusing or directing of electromagnetic energy into the interaction zone;

wherein substantially all of the parts therein are fixed and do not move so that the electromagnetic energy directed into an interaction zone is not scanned relative to the housing.

34. (Amended) An apparatus for imparting disruptive forces onto a target surface, comprising:

a housing;

a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;

at least one contacting leg coupled to the housing, the at least one contacting leg being constructed to contact a surface and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and

a moisture output constructed to simultaneously place moisture into close proximity of the interaction zone simultaneously with the focusing or directing of electromagnetic energy into the interaction zone;

wherein at least one of (a) substantially all of the at least one contacting leg and (b) at least part of the housing adjacent to the contacting leg, comprises a transparent material.